

CLAIM AMENDMENTS

Please amend the claims as follows.

1 1. (currently amended) A lighting arrangement comprising:
2 a source of electrical power; and
3 at least one m pairs of light-emitting diodes (LEDs), each pair of LEDs including a
4 first LED and a second LED, driven by the power source and connected in parallel in
5 each of n parallel paths, such that an anode of a the first one of the LEDs in the each
6 pair is electrically connected to the-a cathode of the other, second LED in the pair, and
7 the-an anode of the second LED in each pair is electrically connected to the-a cathode
8 of the first LED in the pair, one of each pair of LEDs thereby being forward biased to
9 produce light regardless of the instantaneous polarity of electrical current supplied to the
10 LED pair by the power source;

11 a current-limiting device, connected in series between the power source and
12 each LED pair;

13 in which:

14 the m pairs of LEDs in each respective parallel path are connected in
15 series;

16 the n parallel paths share common power connections but are otherwise
17 electrically separated from each other such that electrical current entering each parallel
18 path passes through the m series-connected LED pairs of only that parallel path; and

19 m is a predetermined positive integer; and

20 n is a predetermined positive integer greater than one.

1 2. (currently amended) An arrangement as in claim 1, further comprising, for
2 each of the n parallel paths, a current-limiting device, connected in series between the
3 power source and each the m LED pairs in each respective path.

1 3. (canceled) An arrangement as in claim 1, further comprising a plurality m of
2 LED pairs connected in series in each of n parallel paths.

1 4. (currently amended) ~~An arrangement as in claim 1, further A lighting~~
2 arrangement comprising:
3 a source of electrical power; and
4 at least one pair of light-emitting diodes (LEDs) driven by the power source, each
5 pair of LEDs including a first LED and a second LED, and connected in parallel such
6 that an anode of the first one LEDs in each pair is electrically connected to a cathode of
7 the second LED in the pair, and an anode of the second LED in each pair is electrically
8 connected to a cathode of the first LED in the pair, one of each pair of LEDs thereby
9 being forward biased to produce light regardless of the instantaneous polarity of
10 electrical current supplied to the LED pair by the power source;
11 a printed circuit board (PCB) base having front and rear surfaces and laterally
12 extending side-edge protrusions; and
13 contact surfaces on edge surfaces of the protrusions;
14 the PCB base forming a mounting substrate for the LED pairs.

1 5. (original) An arrangement as in claim 4, in which the protrusions are
2 positioned so as to mate with at least one internal contact surface of a light fixture.

1 6. (original) An arrangement as in claim 5, in which the light fixture is a screw-in
2 fitting.

1 7. (original) An arrangement as in claim 5, in which the light fixture is a bayonet
2 fitting.

1 8. (original) An arrangement as in claim 5, in which the light fixture is a flanged
2 fitting.

1 9. (original) An arrangement as in claim 5, in which the light fixture is a wedge-
2 based fitting.

1 10. (currently amended) An arrangement as in claim 5, in which the light fixture
2 is a standard, after-market pre-existing, commercially available fitting designed to
3 receive an incandescent light bulb.

1 11. (original) An arrangement as in claim 5, further comprising a biasing
2 arrangement that biases the contact surfaces of the protrusions into electrical contact
3 with the internal contact surfaces.

1 12. (original) An arrangement as in claim 5, further comprising at least one slot
2 in the PCB base forming a region of lateral compression, the PCB base having a width
3 equal to or slightly greater than an internal dimension of the light fixture, compression of
4 the PCB base, upon installation of the PCB base in the fixture, creating a lateral biasing
5 force biasing the contact surfaces of the protrusions into electrical contact with the
6 internal contact surfaces of the fixture.

1 13. (original) An arrangement as in claim 4, further comprising a separate pair
2 of parallel-connected LEDs on the front and back surfaces of the PCB base, one LED in
3 each pair being forward biased at the same time as a corresponding LED in the other
4 pair, whereby front-and-back illumination is provided by the LED pairs on the single
5 PCB substrate.

1 14. (currently amended) An arrangement as in claim 1, in which the power
2 source supplies unrectified alternating current to each LED pair, whereby only one of
3 the LEDs in each LED pair will be forward biased at any given moment, and heat
4 generated by the plurality of LED pairs is reduced and heat dissipation is increased.

1 15. (currently amended) An arrangement as in claim 1, in which A lighting
2 arrangement comprising:
3 a source of electrical power; and
4 at least one pair of light-emitting diodes (LEDs) driven by the power source, each
5 pair of LEDs including a first LED and a second LED, and connected in parallel such

6 that an anode of the first one LEDs in each pair is electrically connected to a cathode of
7 the second LED in the pair, and an anode of the second LED in each pair is electrically
8 connected to a cathode of the first LED in the pair, one of each pair of LEDs thereby
9 being forward biased to produce light regardless of the instantaneous polarity of
10 electrical current supplied to the LED pair by the power source;

11 in which:

12 a plurality of LED pairs are mounted on a single printed circuit board (PCB) base;

13 and

14 the plurality of LED pairs include at least three pairs producing light of each of
15 three colors, whereby objects illuminated by the arrangement appear to a viewer to be
16 illuminated by full spectrum white light.

1 16. (original) An arrangement as in claim 15, in which the colors are red, green
2 and blue.

1 17. (original) An arrangement as in claim 1, in which the LED pair comprises
2 two LED dies mounted with reverse polarity within a single LED casing.

1 18. (currently amended) An arrangement as in claim 1-14, in which [[::]]
2 a plurality of LED pairs are mounted on a single printed circuit board (PCB) base
3 and the LEDs are separated by no more than 1 mm;
4 ~~a duty cycle of each LED in each pair is no more than 50%, whereby heat~~
5 ~~generated by the plurality of LED pairs is reduced and heat dissipation is increased.~~

1 19. (currently amended) A lighting arrangement comprising:
2 a source of electrical power;
3 at least one pair of light-emitting diodes (LEDs), each pair of LEDs including a
4 first LED and a second LED;
5 a current-limiting device, connected in series between the power source and
6 each LED pair;
7 a printed circuit board (PCB) base having front and rear surfaces and laterally
8 extending side-edge protrusions, the PCB base a mounting substrate for the LED pairs;
9 and
10 contact surfaces formed on edge surfaces of the protrusions;
11 in which:
12 the power source supplies unrectified alternating current to each LED pair;
13 each LED pair is driven by the power source;
14 the LEDs in each pair are connected in parallel such that an anode of a-the first
15 one of the LEDs in the each pair is electrically connected to the a cathode of the other,
16 second LED in the pair, and the-an anode of the second LED in each pair is electrically
17 connected to the-a cathode of the first LED in the pair, one of each pair of LEDs thereby
18 being forward biased to produce light regardless of the instantaneous polarity of
19 electrical current supplied to the LED pair by the power source; and
20 the protrusions are positioned so as to mate with at least one internal contact
21 surface of a fitting designed to receive an incandescent, plasma-based fluorescent or
22 halogen bulb.

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